

### REMARKS

Favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

The amendments to the claims 1 and 6 are entirely editorial in nature. Newly submitted claim 21 finds clear and complete antecedent support in original claim 17, but is drafted in process form.

The rejections 1 through 17 "under 35 U.S.C. §103(a) as being unpatentable over Spurgat in view of Kitami et al. . . ." It is respectfully traversed. Current criteria for combining references are presented in the opinion for *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002), at 1433 and 1434:

"The factual inquiry whether to combine references must be thorough and searching." It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. "[P]articular findings must be made as to the reasons the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." The Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the two references. Omission of a relevant factor required by precedent is both legal error and arbitrary agency action.

Please note that the mere fact that both references originate from the same art does not provide any teaching or suggestion to combine them. *In re Levitt*, 11 U.S.P.Q.2d. 1315, 1316 (Fed. Cir. 1989).

In the later regard, Applicant presented an Information Disclosure Statement citing seven (7) references, and in the prosecution of Spurgat and Katami et al. numerous other references in related art are recited. In selecting the two references relied upon, the Examiner has not in any way indicated what would direct one of ordinary skill in the art to those two specific references, rather than any combination of any of the other references referred to, to solve the problems addressed than solved by Applicant's claimed invention. As pointed out in the opinion for *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988):

When prior-art references require a selective combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. It is impermissible to use the claims as a frame in the prior-art references as a mosaic to piece together a facsimile of the claimed invention.

Katami et al. includes EPDM and butyl rubber among materials eligible for his outer wall 22, the Examiner has apparently overlooked the fact that these are materials employed for a very specialized purpose in Applicant's claimed innermost layer. Katami does not in any way suggest the use of such materials for the innermost layer of his hose, but for an outer peripheral wall 22 of a core tube 20. Furthermore, both Katami and Spurgat are directed to subject matter which is completely unrelated to a hose for conveying a hydrogen fuel.

Conveying a hydrogen fuel imposes particular problems which are neither encountered nor addressed by either of the references. No motivation for seeking assistance in solving Applicant's problems can be derived from anything found in either Katami or Spurgat.

Please note that a metal oxide and/or sulfur are commonly used as a curing agent for EPDM or for IIR.

Each and every unsupported allegation of what "would have been obvious to one of ordinary skill in the art at the time of Applicant's invention" is respectfully traversed. No weight can be accorded to an allegation or assertion by the PTO without foundation in the record upon

which the involved position can be based. *In re Noznick Tatter & Obenauf*, 178 U.S.P.Q. 43 (C.C.P.A. 1973). A fertile imagination does not make a claimed invention obvious. *In re Way*, 185 U.S.P.Q. 580, 584 (C.C.P.A. 1975). The prior art must contain a teaching to modify the prior art to include all of the features of the claimed invention. *Stein Industries, Inc. v. Jarco Industries, Inc.*, 40 U.S.P.Q.2d 1955 (N.Y. 1996).

No suggestion whatsoever is found in either Katami or Spurgat. With regard to the use of specified rubber material for the innermost layer to solve specific problems in hoses for conveying a hydrogen fuel; these references give no motivation to obtain the concept behind the presently claimed invention.

A metal oxide and/or sulfur are commonly used as curing agents for EPDM and/or IIR. The Examiner's conjecture of inherency is submitted to be unjustified. Applicant submits herewith a copy of "VULCANIZATION OF ELASTOMERS," wherein the use of sulfur as a curing agent for ethylene propylene terpolymers is repeatedly described on pages 324 to 326. Copies of these pages are enclosed.

The RUBBER TECHNOLOGY HANDBOOK refers to curing halogenated IIR (a material similar to IIR) by a metal oxide. See paragraph 3.3.7.4 on page 92 — herewith. Curing EPDM by sulfur is referred to in paragraph 3.3.8.4, lines 5 to 10, on page 97 — copy herewith.

According to the present invention, a rubber material for the innermost layer, containing a curing agent other than a metal oxide or sulfur, is used for the specific purpose of preventing pollution of the fuel-cell catalyst, etc., which is no way apparent from anything extractable from Katami or Spurgat.

The Examiner's approach appears to be based on a false assumption that all polymers made from the same monomers are identical in properties. Properties of polymers vary not only in percentages with respect to monomer proportions but also in molecular weight. Even polypropylenes vary from high density to low density by the process in which they are prepared.

Paper No. 4 refers to a holding "that discovering an optimum value of a result effective variable involves only routine skill in the art." This appears to apply only when the art teaches that

a variable is "result effective" for a specified purpose, not when the purpose or the particular variable is taught only by Applicant.

Issue is taken with the unsupported allegation that "process limitations are given little or no patentable weight." When process limitations have a significant effect on the resulting product, they become critical in context of the product which is being claimed. When excluded materials would otherwise contaminate fuel being carried by claimed hose, the absence of such projected contaminants is a clear and positive limitation on the value of the claimed product, as would be understood by anyone of at least of ordinary skill in this art.

As pointed out in the opinion for *In re Lowry*, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994), at 1034:

The PTO must consider all claim limitations when determining patentability of an invention over the prior art.

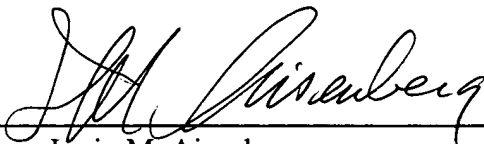
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Having overcome all outstanding grounds of rejection, and an early notice of allowance, which is in order, is respectfully solicited.

Respectfully submitted,

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Enclosures: Vulcanization of Elastomers  
Rubber Technology Handbook

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please amend the following claims without prejudice:

1. (Amended) A hose [of] having a multi-layered wall and useful for conveying a hydrogen fuel in a fuel-cell vehicle, the hose comprising an innermost layer of a curing-agent cured rubber material, [cured by an] wherein the curing agent [not containing any] is free from metal oxide [and/or] or sulfur, and having a hydrogen gas-impermeable metallic barrier layer [formed] in the wall surrounding the innermost layer.

6. (Amended) The hose according to claim 1, wherein the rubber material is peroxide-cured EPDM or EPM [cured by a peroxide without any] free of zinc oxide.